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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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JoAnn Villamizar			CORDRAY, DENNIS R	
Ciba Corporation/Patent Department				
540 White Plains Road			ART UNIT	
P.O. Box 2005			PAPER NUMBER	
Tarrytown, NY 10591			1791	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/517,413

Applicant(s)

SUNDBERG ET AL.

Examiner

Dennis Cordray

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 11/2/2007 have been fully considered but they are not persuasive.

Applicant has previously admitted that ASA (alkenyl succinic anhydride) is well known for use in paper and that it may be desirable to use purified products (pp 6-7 in response received 7/13/2007). Applicant continues to argue that, while a purer product may be desirable, the improvement in properties therefrom is not obvious. Applicant also argues that Fakoukakis makes no mention of papermaking, and Tansley et al only mentions ASA in stating, "any conventional cellulose-reactive paper sizing agent, including, for example, alkenyl succinic anhydride, as well as ketene dimers, may be usefully employed in this invention," but only discloses examples using ketene dimer (AKD). Applicant also argues that Tansley et al would only have looked for a conventional sizing agent and not an unconventional one (essentially free from olefins and residual polymers), because the market and publications are telling him to use non-purified ASA which is conventional.

Tansley et al states only that conventional cellulose-reactive paper sizing agents include ASA and AKD and says nothing about the content of olefins and residual polymers. Tansley et al also says nothing about conventional ASA or its composition. Stating that market and publications are telling him to use non-purified ASA which is conventional is speculation. The arguments of counsel cannot take the place of evidence in the record. In re Schulze, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA

1965); In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) (“An assertion of what seems to follow from common experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness.”).

Regarding the examples of Tansley et al, disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi, 440 F.2d 442, 169 USPQ 423 (CCPA 1971). Furthermore, “[T]he prior art’s mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed....” In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

The arguments against Sonoda have been previously addressed, but the comments will be repeated herein for completeness. Sonoda teaches that a mixture containing tar and high molecular weight polymer is used for regular sizing purposes, but a high purity product is required for information recording material (which the Examiner construes to encompass recording papers). Sonoda et al does not teach away from a high purity product, but provides a motivation for one of ordinary skill in the art to seek the highest purity product obtainable for use in information recording material.

Fakoukakis teaches a simpler, more efficient and more economical process for producing the claimed high purity ASA (col 1, lines 63-68).

Absent convincing evidence of special properties therefrom, one of ordinary skill in the art would have known of the above disclosures and would have been

motivated to use the ASA of Fakoukakis in any paper as an economical and very high purity product. All of the claimed structural elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. The sizing agent and paper produced would have had the claimed properties for reasons given in previous Office Action and repeated in the rejections below..

Regarding the evidence of the nonobviousness of the instant invention, the Examiner agrees that the methods of application are well known and amount of sizing applied is within known ranges. Frolich et al discloses applying ASA in a range from 0.01% to 1% by weight of the fibers and filler, the dosage being determined by the the quality of the pulp to be sized and the degree of sizing required (col 8, lines 17-26). However, as previously discussed, the evidence provided of improved properties disclosed are for a paper of a specified weight having a particular addition level of nearly pure ASA (0% polymeric residue and 0.19% olefin content) as compared to the same addition of a standard ASA (7.24-9.54% polymeric residue and 2.16-4.52% olefin content) (Specification, p 7, Table 1; pp 9-11, Pilot Paper Machine Trial). The tested papers comprise an unspecified pulp and other organic and inorganic additives as well. The Specification does not indicate how the ASA was applied to the papers, whether by front end addition, size press, or by some other method of application. The data are insufficient to support broadly stated claims that embody a nonspecific paper or board of any weight made from any pulp, having any additives and any amount of ASA applied at

the wet end, via size press, or by any other method of application, the ASA having an amount of polymeric residue up to 1% or up to 0.5% and an amount of olefins up to 5% or up to 0.5%.

Regarding the rejection of product-by-process claim 10, disclosed examples do not constitute a teaching away from a broader disclosure or nonpreferred embodiments (see discussion above). The amount of polymeric and olefin residue retained in the sized paper or board product is unknown and no evidence has been presented to demonstrate any unobvious differences between the paper of Tansley et al and that claimed. Both products appear to be a paper or board sized with ASA.

The rejections are maintained.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-2 and 4-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tansley et al in view of Fakoukakis et al (4956478) and further in view of Frohlich et al (5969011) and Sonoda et al (JP 62106091 A, translation used for reference).

Claims 1-2, 4-12 and 20: Tansley et al discloses a sized liquid packaging paper or board, wherein the sizing agent comprising alkenyl succinic anhydride, or ASA is added to the aqueous pulp slurry (Abstract; col 4, lines 23-26; col 5, lines 55-60). The board is coated on both sides with polyethylene (barrier coating of a food grade material) (col 1, lines 12-18; col 3, line 25). Tansley et al discloses a method for

producing a carton comprising forming a sized paper or board, treating with hot hydrogen peroxide (sterilizing), then forming a packaging unit (carton) from the board (col 3, lines 3-28). The sizing agent is provided as an aqueous dispersion (col 3, lines 19 and 20).

Tansley et al does not disclose the polymeric residues or olefin content of the ASA.

Fakoukakis et al discloses a method for making a nearly pure ASA (Abstract; col 4, lines 23-26). While the polymeric residues and olefin content of the nearly pure ASA are not disclosed, examples are given of a product comprising about 99% ASA (col 5, lines 33-36; col 6, lines 1-3), thus having a maximum combined content of polymer residues and olefins of about one percent. Fakoukakis et al also discloses that the alkenyl succinic anhydrides have substantially no polymeric residue contamination (col 2, lines 13-20; claim 1). Substantially no polymeric residue is interpreted as a level low enough not to have any impact on the structure or performance of the product. The alkenyl succinic anhydrides of Fakoukakis et al are thus substantially the same as those of the instant invention. Fakoukakis discloses that the method is a simpler, more efficient and more economical process for producing nearly pure ASA.

Fakoukakis et al does not recite the use of the ASA as a sizing agent. However, ASA is a well known cellulose reactive size used in papermaking, as taught by Frohlich et al (col 1, lines 10-16).

Sonoda et al teaches the use of ASA for multiple purposes, such as a sizing agent, resin former, plasticizer, lubricant additive and rust inhibitor, which include many

of the uses recited by Fakoukakis et al but with the inclusion of a sizing agent (p 2, lines 3-4). Sonoda et al also teaches that the usual methods of making ASA result in byproducts of a tar substance and a high molecular weight polymer, which result in insufficient quality of the product. Sonoda et al further teaches that a high-purity product is required for an information recording material (which the Examiner construes as meaning a paper) and that numerous proposals have been made for obtaining high purity product with fewer byproducts (p 2, last 3 pars).

The art of Tansley et al, Fakoukakis et al, Frohlich et al, Sonoda et al and the instant invention are analogous as pertaining to the use of ASA. Tansley et al teaches the basic use of ASA in a paper. Fakoukakis et al teaches a method for producing high-purity ASA with the claimed amount of byproducts. One of ordinary skill in the art would have found a product containing 99% ASA and 0.5% or less of polymer residues and/or olefins to be an obvious embodiment over the disclosure of Fakoukakis et al. Frohlich teaches that ASA is a well known sizing agent used in papermaking. Sonoda et al teaches that it was well known in the art (numerous proposals made) to seek a high purity ASA to be used in information recording paper. It would have been obvious to one of ordinary skill in the art to use the claimed ASA in the paper of Tansley et al or in any paper in view of Fakoukakis et al and further in view of Frohlich et al and Sonoda et al as a well known more economical sizing agent having a low level of unwanted by-products.

Claim 13: Fakoukakis et al teaches that the products can be used in many instances without further purification (col 2, lines 13-20; col 3, lines 20-23), thus implicitly

discloses that further purification is possible. With the motivation, as taught by Sonoda et al, to obtain a high-purity ASA sizing agent, it would have been obvious to one of ordinary skill in the art to further purify the product of Fakoukakis et al by removing as much of the polymeric residues as possible.

Claims 14-16: The sized paper of Tansley et al in view of Fakoukakis et al and further in view of Frohlich et al and Sonoda et al has substantially the same structure as the instant invention, as claimed. The sizing agent will have the claimed properties of color and rate of hydrolysis because, where the claimed and prior art apparatus or product are identical or substantially identical in structure or composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent.

Claims 17-19: Tansley et al discloses that the preparation of stable dispersions comprising the cellulose reactive size includes conventional stabilizers and dispersing agents falls within the competence of those skilled in the art. The preferred stabilizer is a cationic starch (col 4, lines 16-22). Frohlich et al teaches that paper sizes based on cellulose reactive sizing agents (ASA and AKD) are generally provided in the form of dispersions comprising a high molecular weight cationic polymer, cationic starch, polyamine or polyamideamine (col 1, lines 1-25). Applicant also teaches that cationic starch, cationic polyacrylamide and other cationic polymers are stabilizers well known in the art for sizing compositions using ASA (p 5, 3rd par). It would thus have been

obvious to one of ordinary skill in the art to use the conventional stabilizers with high purity ASA to make a paper sizing dispersion and to have a reasonable expectation of success.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 10 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Tansley et al.

Claim 10 is a product-by-process claim. The product disclosed by Tansley et al appears to be the same as or similar to the claimed product, a paper or board sized with ASA, although produced by a different process. The burden therefore shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. In re Marosi, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir. 1983). "In the event any differences can be shown for the product of the product-by-process claim 10 as opposed to the product taught by the reference Tansley et al, such differences would have been obvious to one of ordinary skill in the art as a routine modification of the product in the absence of a showing of unexpected results: see also In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985)"


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DRC
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